

DEC 5 1925

THE RHODE ISLAND MEDICAL JOURNAL



Owned and Published by the Rhode Island Medical Society. Issued Monthly

VOLUME VIII } Whole No. 195 PROVIDENCE, R. I., DECEMBER, 1925 PER YEAR \$2.00
No. 12. } SINGLE COPY 25 CENTS

CONTENTS

ORIGINAL ARTICLES

Sacral Anesthesia. Wilfred Pickles, M. D.	193
Some Remarks on Mastoiditis. Howard E. Blanchard, M. D.	197
Industrial Medicine. John F. Kenney, M. D.	203

Contents continued on page IV advertising section

ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE AT PROVIDENCE, R. I., UNDER ACT OF MARCH 3, 1879

DOCTOR:

When calling for the active principle of the Posterior portion of the Pituitary substance in solution, remember to specify PITUITARY LIQUID, ARMOUR, because it is made from U. S. government inspected glands and complies with all the requirements of the new U. S. P. X.

There are many Pituitary extracts on the market of varying strength and in order to be sure of your product, we suggest the advisability of insisting on a dependable make and commend to you ARMOUR'S because of the opportunity which our facilities make possible in the selection of raw material.

The same is true of our entire line of glandular preparations. Every particle of raw material put into process is normal in every respect and when insisting upon ARMOUR'S you may be sure of full therapeutic activity.



ARMOUR AND COMPANY
CHICAGO



Feeding Babies in Winter

Neither cow's milk nor breast-milk contains sufficient antirachitic power to protect all infants from RICKETS.

Also—during the winter months, babies are usually not exposed to a sufficient amount of sunlight to prevent RICKETS.

The prescribing of MEAD'S STANDARDIZED AND BIOLOGICALLY-ASSAYED COD LIVER OIL by the physician is one of the most valuable safeguards against RICKETS.

MEAD'S is not an ordinary COD LIVER OIL. Every step in its preparation, from the time the fish are caught until the oil is finally tested and bottled, is scientifically controlled. Its purity and potency is guaranteed.

*Samples and literature furnished
immediately on request.*



The Mead Policy

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.



MEAD JOHNSON & COMPANY, Evansville, Indiana, U. S. A.
Manufacturers of Infant Diet Materials

Mention our Journal—it identifies you.

THE RHODE ISLAND MEDICAL JOURNAL

The Official Organ of the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee

VOLUME VIII }
NUMBER 12 } Whole No. 195

PROVIDENCE, R. I., DECEMBER, 1925

PER YEAR \$2.00
SINGLE COPY 25 CENTS

ORIGINAL ARTICLES

SACRAL ANESTHESIA*

(With a report of one hundred inductions)

WILFRED PICKLES, M.D.

PROVIDENCE, R. I.

The anesthetic properties of cocaine were first demonstrated by Karl Koller at Heidelberg in 1884, and this demonstration proved to be the starting point of efforts to produce surgical anesthesia without loss of consciousness. Since that time a constantly increasing amount of work has been going on in the development of local and regional methods of anesthesia. The aim is always to block peripheral impulses before they reach the central nervous system and can be appreciated as pain, but the modes of accomplishing this object are varied. In general, however, they may be divided into three main groups; terminal infiltration, field block, and regional or nerve block. Terminal infiltration, commonly known as local anesthesia, is accomplished by intradermal infiltration and massive edematization of the tissues at the site of operation. In this way, the terminal nerve filaments are paralyzed by a weak anesthetic solution, and operations can be performed painlessly. Field blocking consists in setting up planes of anesthetic infiltration in such a manner that all nerves supplying a given area must pass through such a plane, with resulting loss of sensation in the area. Nerve or regional blocking applies a small amount of relatively concentrated solution in or near a nerve trunk, thus producing anesthesia throughout its entire distribution. It is in the use of this last method that peripheral anesthesia has made its chief advances in recent years, and it seems likely that this anatomical method will become even more valuable in the near future.

The induction of anesthesia in those regions of the body supplied by the sacral nerves, by blocking

these trunks at or near their point of emergence from the spinal canal, is a comparatively recent application of the regional principle. In 1903, Cathelin produced anesthesia in dogs by the injection of three cubic centimeters of one per cent cocaine into the sacral canal, but he was unable to duplicate this in man. The use of epidural injections of anesthetic solutions for the relief of sciatica, lumbago, tabes, enuresis and sexual neuroses, however, gained a considerable vogue in France following this work. In 1909, Stoeckel used similar injections of novocaine for the relief of labor pains and succeeded in reducing their intensity materially, although complete anesthesia was not obtained. Laewen, in 1910, reported a series of operations performed under what he termed "extradural anesthesia," demonstrating the practicability of the method in actual surgery; and in 1913 Danis first demonstrated the possibility of the transsacral approach. In this country Harris did much to advance the method, and of late years Labat and his successors at the Mayo Clinic have been the chief exponents of this form of anesthesia.

ANATOMY

The sacrum is a large, triangular bone formed by the fusion of the five sacral vertebrae, articulating above with the last lumbar vertebra, laterally with the innominate bones, and below with the coccyx. Its anterior or pelvic surface is fairly smooth, concave from above downward, and presents four anterior sacral foramina on each side of the midline. These foramina transmit the anterior branches of the sacral nerves and the lateral sacral arteries. The upper four sacral nerves, together with the lumbo-sacral cord, containing fibres from the fourth and fifth lumbar nerves, unite to form the sacral plexus. This lies on the anterior surface of the sacrum, being separated from it by the pyramiformis muscle. The fourth and fifth sacral nerves, with the coccygeal nerve and branches from the sacral plexus, make up the pudendal plexus. The posterior surface of the sacrum is rough and convex, this convexity being much more marked at its upper extremity. In the midline it presents a

*Read before the Providence Medical Association October 5th, 1925.

From the Surgical Services, Rhode Island Hospital.

spinous crest, a row of tubercles representing the spinous processes of the upper four sacral vertebrae. On each side of this crest are four posterior sacral foramina, continuous with the corresponding anterior foramina, and serving to transmit the posterior branches of the sacral nerves. The sacral canal is a prismatic continuation of the spinal canal extending the whole height of the sacrum, and having for its lower extremity the sacral hiatus, a gap left by the failure of the fifth spinous process to develop. This hiatus, therefore, gives direct access to the spinal canal. It is bounded above by the fourth sacral spine, and below and laterally by the sacral cornua, being thus a triangular space covered by a fairly resistant fibrous tissue, the sacro-coccygeal membrane. Variations from this average or normal bony structure are fairly common, the usual changes being the presence of six sacral vertebral segments, and the failure of the fourth as well as the fifth spinous processes to develop.

The theca, or lower termination of the dural sac, is found quite constantly at the lower border of the second sacral vertebra. The remainder of the sacral canal is filled with nerves of the cauda equina and loose areolar tissue containing fat and a plexus of veins. The area occupied by this areolar tissue is known as the epidural space, and extends up around the dural sac to the level of the third cervical vertebra. It will thus be seen that the termination of the dural sac is from seven to nine centimeters above the apex of the sacral hiatus.

TECHNIQUE

From this brief description of the anatomy of the sacral region, it is evident that there are three distinct methods by which blocking of these nerves may be brought about. Solution may be introduced into the sacral canal through the hiatus and thus be brought in contact with the nerves as they pass to their several foramina; this method is known variously as caudal, epidural or extradural anesthesia. The nerves may be reached as they emerge from the anterior foramina, and this procedure is known as presacral or parasacral anesthesia. Finally, they may be injected through the posterior sacral foramina, a method known as transsacral blocking.

The simplest of these methods is that of epidural injection of an anesthetic solution. The patient is placed face down upon an operating table or truck, and a small pillow or rolled blanket is inserted beneath the anterior superior spines of the ilia so as to flex the legs slightly on the trunk. An operative field is now prepared extending from the iliac crests to the lower borders of the glutei, particular attention being paid to the gluteal fold. We have used the sequence of benzine and iodine, ether, and iodine in all cases. The field is blocked off with sterile goods in the usual manner, and the entire procedure is carried out as a surgical operation. The tip of the coccyx is palpated with left index finger, which is then carried upward until the sacral cornua are felt. The fourth sacral spine is now found slightly above the cornua, and these three points outline the sacral hiatus. With a fine hypodermic needle, an intradermal wheal is raised over the midpoint of the hiatus, and through this the tissues down to and including the sacro-coccygeal membrane are anesthetized. A lumbar puncture needle is now introduced at right angles to the membrane and advanced until it meets the bony resistance of the anterior wall of the sacral canal. The sensation felt as the needle penetrates the membrane is definite and resembles that experienced in entering the spinal canal in lumbar or cistern puncture. The needle is now withdrawn slightly and its direction changed to accord with that of the sacral canal, into which it is now advanced three or four centimeters. The stylet is removed and aspiration through the needle is attempted by means of an empty syringe. If blood or spinal fluid is obtained, the puncture of a vein or of the dural sac is shown and the needle must be withdrawn slightly until this condition no longer exists, for the injection of the anesthetic directly into the spinal fluid or the circulation might easily prove fatal. The syringe filled with the procaine solution is now attached to the needle and the fluid is slowly introduced. If the needle is within the canal, very little resistance to the free flow of the liquid is experienced, but if force is necessary to complete the injection the needle is not in the proper position, and it must be reinserted if anesthesia is to be obtained. The appearance of any subcutaneous swelling in this region during the injection is like-

wise an indication of failure to enter the canal. When the injection of the solution is completed, it is important to remove the iodine with care, as the ensuing disturbance of nerve conduction seems to predispose to annoying burns unless this precaution is followed.

The strength and amount of the anesthetic solution used by different workers vary markedly. Farr uses 90 to 100 cc. of one per cent. procaine with three minims of adrenalin to the ounce of solution. Meeker employs 50 to 75 cc. of one per cent. procaine with two minims of 1/1000 epinephrine to the ounce. Harris recommends the use of one per cent. procaine with 0.5 per cent. calcium chloride, while Labat uses 40 cc. of two per cent. procaine. In the series of injections reported herewith, we have tried various strengths and amounts, but we now use routinely 30 to 40 cc. of one per cent. procaine containing three minims of adrenalin 1/1000, as this gives uniformly good anesthesia with few untoward reactions.

For the induction of presacral or parasacral anesthesia, the patient is placed in the lithotomy position and the sacro-coccygeal joint found as described above. On each side of this joint, and about 2 cm. from the midline, an intradermal wheal is raised, and through this a long needle is introduced and advanced until it comes in contact with the anterior surface of the sacrum. The point of the needle is now carried forward along this surface, and the distance from the second to the fifth foramina is injected with 20 cc. of one per cent. procaine solution. A separate injection of the same amount is made for the first sacral nerve, and about 5 cc. more is deposited between the rectum and the coccyx. This method thus uses about 100 cc. of the one per cent. solution. Inasmuch as the rectum, even when empty, lies closely in the hollow of the sacrum, the possibility of penetrating this viscus with a needle is undeniable. For this reason, and because the transsacral approach gives equally good anesthesia without this possibility, we have not used the presacral method in any of the operations reported in this paper.

Transsacral nerve blocking is accomplished with the patient in the same position as that employed for epidural injection. The posterior superior iliac spine is palpated, and an intradermal wheal

raised at a point 1 cm. medial to and 1 cm. caudal to this landmark. This wheal is over the second sacral foramen. A line extended from this point to the sacral cornu on the same side will overlie the other foramina. The notch for the fifth nerve is found just lateral to the sacral cornu, and the third and fourth foramina are indicated by wheals raised so as to divide the intervening space equally into three parts. If this imaginary line be extended about 2 cm. beyond the second foramen, a wheal can be raised approximately over the first foramen. The finding of the foramina with the needle point is not difficult if the operator carry in his mind a picture of the bony sacrum. The second foramen is usually the easiest one to locate. Through the wheal previously raised, a needle about 8 cm. in length is introduced at right angles to the posterior surface of the sacrum and advanced until contact with bone is obtained. It is then withdrawn a few millimetres and with its direction slightly changed is reintroduced, this procedure being repeated until the point is felt to slip into an opening in the bone. The needle point can now be advanced about 1 cm. into the foramen, and 6 cc. of the one per cent. procaine solution injected, the aspiration test being employed as before. The other foramina are injected in a similar manner, the amount of solution being reduced by 1 cc. for each of the lower foramina. In searching for the first foramen, the marked convexity of the sacrum at its upper end must be remembered, and the needle introduced accordingly. It is thus possible to inject directly all five sacral nerves on each side with little or no discomfort to the patient. It is customary to precede such transsacral blocking by an epidural injection of about 30 cc. of one per cent. procaine, and this technique has been followed in our cases.

No special preoperative preparation is necessary for patients who are to be operated upon under this technique. We have found it advisable to use 1/6 to 1/4 gr. of morphine subcutaneously about fifteen minutes preceding the induction of anesthesia, simply to allay apprehension. The use of narcotics to the point of producing partial anesthesia is unnecessary and inadvisable, and, where the mental state of the patient has permitted it, we have frequently omitted all preliminary medication.

APPLICATION

When the epidural injection alone is employed, about fifteen to twenty minutes must be allowed for the onset of complete anesthesia. As in any anesthetic procedure in which the patient retains consciousness, it is important that this time element be rigidly observed and that no attempts to determine the presence or absence of sensation be made until after this period has elapsed. Failure to observe this simple rule will destroy the confidence of the patient by making the first manoeuvre painful, and subsequent movements of the operator which result in purely tactile sensations may be interpreted as causing pain. At the expiration of this time, anesthesia may be tested by placing a clamp on the anal margin, this usually resulting in no pain. Successful anesthesia is also indicated by a smoothing out of the skin folds about the anus as a result of the complete relaxation of the anal sphincter. We have made sixty-three such injections and have obtained complete anesthesia in all but three instances. In each of these cases bony abnormality existed and it was impossible to enter the canal properly. It has been stated by some workers that failure in approximately fifteen per cent. of cases is to be expected in using this method, even when the anesthetic solution is properly introduced. From our somewhat limited experience, however, we are inclined to believe that the method is successful whenever the solution is brought in contact with the sacral nerves, and that failure to obtain anesthesia indicates failure to place the anesthetic where it can affect the nerves involved. The anesthesia resulting from epidural injection alone has been found satisfactory for cystoscopy, hemorrhoidectomy, and for the operative treatment of fissure and fistula in ano, and rectal prolapse. In addition, it has been employed by us for the implantation of radium in malignancy of the rectum, and for obtaining specimens for microscopic examination in such cases. Combined with injection of the cord where it passes over the pubis, it is sufficient for work upon hydrocele. In rectal work, the almost complete relaxation of the anal sphincter is striking and exceeds that which can be obtained even with deep ether anesthesia.

Transsacral blocking following a low epidural injection has been employed in thirty-seven addi-

tional cases included in this series. With this technique, anesthesia sets in within five minutes, and is maintained for a time varying from one hour to three hours and ten minutes. The average time in our hands has been two and a half hours. This form of anesthesia has been found satisfactory for anterior and posterior colporrhaphy, perineorrhaphy, trachelorrhaphy, amputation of the cervix, dilatation and curettage, insertion of stem pessary, and perineal prostatectomy. Combined with an anterior abdominal field block, we have used it with satisfaction for the removal of stones and foreign bodies in the urinary bladder, dilation of diverticula of this organ, and for suprapubic prostatectomy. The relaxation following the nerve blocking makes this an excellent type of anesthesia for operative obstetrics, as shown by Meeker, but to the present we have had no opportunity to use it for this purpose.

The epidural space, into which these injections are made, extends from the sacral region to the level of the third cervical vertebra. This has led to attempts to utilize this method for anesthesia of higher nerves as a substitute for spinal anesthesia, and it has been successfully employed in abdominal operations. The risks attendant upon such high epidural injection, however, are so great as to make its use unwarrantable; collapse, epileptiform seizures, and death having followed not infrequently.

In following the technique as we have described it there have been very few complications. In about one-fourth of the patients there may be noticed a transient tachycardia and palpitation coming on after the injection of the first few cubic centimeters of solution, but this passes off rapidly, and is probably due to the adrenalin used. Very rarely nausea may follow these symptoms, but in none of our patients was it followed by vomiting. It is important that the patient understand the surgeon so that he may explain what is being done. One of our patients developed a fairly marked degree of psychic shock from fear alone. As far as could be determined, she suffered no pain, but she became frightened, and, not understanding English, could not be reassured. Apprehension on the part of patients of a certain type may tend to take away the effect of an otherwise perfect anesthesia. In such cases it is wise to

administer a few breaths of nitrous oxide and oxygen, and then to let the patient regain consciousness, when the operation can usually be carried on with the regional anesthesia alone. After the transsacral block, a few patients complain of slight soreness over the sacrum for a day or two. We have had no infections following either epidural or transsacral block. There has been one death from pneumonia, the lung process first becoming evident six days following prostatectomy under transsacral block. This is of interest as showing that pulmonary complications can and do occur in the absence of ether anesthesia, and supports the view that such complications are largely embolic in nature.

The tissues over the sacrum must, of course, be in good condition if this method is to be employed, and the presence of any infection of the skin or deeper structures is an absolute contraindication to its use, as is also the presence of malignancy in these tissues. Aside from this, there are no contraindications.

SUMMARY

Sacral anesthesia is accomplished by blocking the sacral nerves near their point of emergence from the spinal canal. This may be done in three ways. (1) Epidural injection, or the introduction of an anesthetic solution through the sacral hiatus into the sacral epidural space. (2) Presacral blocking, or the injection of the individual nerves through the anterior sacral foramina. (3) Transsacral blocking, or the reaching of the individual nerves by way of the posterior sacral foramina. Epidural injection has been found satisfactory in all but three of sixty-three attempts, the failures being due to inability to enter the canal. The resulting anesthesia has been sufficient for cystoscopy and the usual operative procedures about the anus and rectum. Presacral anesthesia has not been attempted in this series because of the danger of penetrating the rectum in reaching the anterior foramina. Transsacral blocking has been employed in thirty-seven additional patients, the anesthesia being satisfactory in all instances. With this form of anesthesia, perineal prostatectomy and the usual plastic operations on the perineum and cervix have been performed. Combined with abdominal field block, it has been found sufficient for work in the urinary bladder and for

suprapubic prostatectomy. There have been few complications of minor importance, and one death, from post-operative pneumonia. The only contraindication to the use of this method is an abnormal condition of the tissues about the sacrum.

BIBLIOGRAPHY

1. Allen, C. W. *Local Anesthesia*. Philadelphia, W. B. Saunders Co., 1920, 2nd ed. 486-493.
2. Babcock, W. W. *Sacral Anesthesia*. Oxford Surgery, New York, Oxford University Press, 1920, i, 167.
3. Cooke, C. O. and Pickles, W. Post-operative Pulmonary Complications. *R. I. Med. Jour.*, Feb. 1923.
4. Farr, R. E. *Practical Local Anesthesia*. Philadelphia, Lea and Febiger, 1923, 115-122.
5. Harris, M. L. Nerve Blocking. *Surg., Gynec., and Obstet.*, 1915, xx, 2, 193-197.
6. Hertzler, A. E. Local and Spinal Anesthesia—Collective Review. *Int. Abst. Surg.* 1918, xxvi, 2, 103-107.
7. Judd, E. S. and Meeker, W. R. The value of sacral nerve block anesthesia in surgery of the prostate gland and bladder. *Jour. Urol.*, 1924, xi, 395-413.
8. Labat, Gaston. *Regional Anesthesia, its technic and clinical application*. Philadelphia, W. B. Saunders Co., 1922, 251-286.
9. Meeker, W. R. and Bonar, B. E. Regional anesthesia in gynecology and obstetrics. *Surg., Gynec., and Obstet.*, 1923, xxxvii, 816-840.
10. Meeker, W. R. and Frazer, E. B. Transsacral nerve block anesthesia in surgery of the pelvic floor and viscera. *Surg., Gynec., and Obstet.*, 1922, xxxv, 6, 801-812.
11. Meeker, W. R. and Scholl, A. J. Sacral nerve block anesthesia: The anatomy involved, technic, and clinical application. *Ann. Surg.*, 1924, lxxx, 5, 739.
12. Thompson, J. E. An anatomical and experimental study of sacral anesthesia. *Ann. Surg.*, 1917, lxvi, 6, 718-727.

SOME REMARKS ON MASTOIDITIS.*

BY HOWARD E. BLANCHARD, M.D.

PROVIDENCE, R. I.

In the middle of the 17th century, the year 1649 to be exact, Johann Riolan proposed that the mastoid process be opened on purely theoretical grounds, believing that in closure of the Eustachian tube this would equalize the pressure on both sides of the membrana tympani. In 1656, Rolfinck suggested making an artificial opening in the mastoid. Both writers' indications for operation were intractable deafness and tinnitus. There is no record that these pioneers, however, submitted their theory to a practical test.

*Read before the Providence Medical Association April 6th, 1925.

Petit, a French surgeon, in 1674, was the first to operate successfully for caries of the mastoid cells, evidently appreciating the possibilities of such a procedure as a life saving proposition. Following the literature, next we find Heuremann operating on a mastoid which had ruptured spontaneously and Morand successful in a case with what seems to correspond to a subdural abscess. Working independently, and without knowing of others' efforts, Jasser, a Prussian military surgeon, operated successfully on a soldier's mastoid, and Fielitz, his successor, was also rewarded in the same manner. About this time, the operation was advocated for deaf-mutism, as well as caries, and failing to give the desired results at the hands of Loeffler, Hagstrom and others, it became discredited. Baron Berger, the personal physician to the King of Denmark, submitted to the operation for deafness and intense tinnitus, and died as the result. This dealt a severe blow to the procedure, and it fell into disuse for decades.

In these early struggles and gropings in the dark, the prime object in view seemed to be the relief of deafness, and attempts to revive the operation by Dezemeris, Pagenstecher, Forget and others were not received favorably, and only by the efforts of Troltsch, Follin and Lucke was a spark of interest kindled from the dying embers of doubt.

In 1873 Schwartze grasped the subject with a master mind, and proceeded to lay the foundation for rational procedure upon a firm, anatomical and pathological basis. With the aid of his assistant, Eyesell, favorable results ensued, and the operation became an established procedure, dawning on the 17th century as a scintillating achievement of professional ingenuity. To Schwartze belongs the credit of laying down the fundamentals for all of the modern complicated mastoid operations.

Up to 1873, Buck reported only 35 cases of operation by simple perforation of the mastoid cortex.

In order to better understand the indications for the mastoid operation, it is necessary to have cognizance of the character of the diseased process taking place in the middle ear. This cavity lies mainly within the petrous portion of the temporal bone, having a bony ring or opening into the external auditory canal closed off by the mem-

brana tympani. A communication to the nasopharynx is made by the Eustachian tube lined with ciliated epithelium, and to the mastoid cells by way of the antrum in the uppermost portion.

Inflammation, followed by catarrhal secretion or suppuration, therefore, has three possible ways of drainage; externally by way of a perforated ear drum, either spontaneous or made artificially by the surgeon's knife. In the spontaneous perforation, the site invariably chosen is at the area of pointing or ulceration, and this may be in any one of the quadrants. If central or above the level of the floor of the tympanum, drainage is not free, pus forming faster than it can be evacuated, and it seeks other means of egress. In a properly performed myringotomy in the posterior quadrant, even incising the annulus tympanicus above, a large loose flap is made of the drum, which is easily pushed aside by the secretions, and free drainage ensues. A second way of drainage is by way of the Eustachian tube. If the tube is patulous and swelling of the mucosa is not too great, some secretion will trickle into the naso-pharynx, aided slightly by gravity, but more by the gentle waving of the cilia. Inspection with the nasopharyngoscope may show pus in the mouth of the tube. Reliance on this sort of drainage should not be relied on, however, as the tubal opening is far from the dependent portion of the middle ear, and a naso-pharynx blocked with lymphoid tissue encroaching on the mouth of the tube also assists in more effectually blocking the exit. Due to the inadequacy of drainage just mentioned, the back pressure of pus finds easy ingress into the antrum and mastoid cells, thus extending the infection into these cavities and adjacent structures, namely, the meninges, facial nerve and even to the vascular system.

It is possible for a mastoiditis to be present without rupture of the drum, due to the remarkable amount of pressure such a delicate membrane can withstand, especially if the onset has been rapid and no ulcerative area in the drum has kept pace with the pathologic process in the middle ear.

Pain is a common symptom of mastoiditis, but may be absent or disappear under treatment even though the diseased process still exists. It is usually felt in the mastoid process, at times running down the neck, following along the sterno-mastoid

muscle from its attachment at the tip, and at other times radiating to a point just anterior to the auricle and above the external auditory orifice, and to the temporal region. Pain or tenderness on pressure is one of the most convincing and constant symptoms exhibited early, and is elicited by firm pressure downward and backward over the antrum, the tip of the mastoid process, and the posterior bony wall of the meatus. It is due to compression of the inflamed bone, and not to the periostitis, which is a later modification. Care should be exercised and only gentle pressure applied, as pain can almost always be elicited by strong pressure. It is a mistake to speak of pain or tenderness over the mastoid emissary vein, because one can never be sure of the exact location of this vessel. Tenderness may not be present even with a serious involvement, due to a thickened cortex, a sinus far forward, leaving only a narrow space for cells between it and the posterior bony canal wall, or to a sclerosis of the entire process.

Post auricular edema indicates a periostitis with or without a perforation of the cortex, and both mastoids should be examined at the same time by standing directly behind the patient. Obliteration of the postauricular fold can thus be observed even without perceptible displacement of the auricle. In late cases, the auricle is displaced far forward, the so-called outstanding ear, and denotes the presence of a subperiosteal abscess.

Presence or absence of drooping of the posterior canal wall should be looked for. It is characteristic when present, and is a pathognomonic sign. This is an edema at the junction of the membrana tympani and the posterior canal wall that smoothes out the acute fold normally present, making it difficult to say just where the canal wall ends and the drum begins. It is due to a periostitis caused by the involvement of the border cells, the Cells of Kirschner, near the posterior canal wall, and is a positive indication for operation, as the mastoiditis is of a destructive type.

Continued copious discharge of pus should receive consideration, as well as scanty discharge. In the former, the amount of thick creamy pus is so great that it is inconceivable that the small area of the tympanum could manufacture so much, and, therefore, a larger surface area such as the mastoid cellular cavity is responsible. In scanty

discharge, on inspection, the drum will probably show a small perforation, centrally located, too high for good drainage, with a small bead of pus protruding through and pulsating synchronously with the heart beat. In a perforation well located, the lack of discharge may be due to a blocking by cellular debris, or granulation tissue.

Bacterial examination of the canal discharge is of no value unless the canal is first dried, then painted with Tr. Iodin, and pus aspirated from the middle ear by a suitable suction apparatus. If the *Streptococcus Pyogenes*, *Streptococcus Hemolyticus*, *Streptococcus (mucosus) Capsulatus* or *Pneumococcus Mucosus Capsulatus* are found, an operation is strongly indicated, as resolution without mastoid involvement rarely takes place. Postponement only allows increased destruction, necessitating more extensive operation and subjecting the patient to further invasion of adjacent structures with the not remote possibility of the development of a much graver infection, such as meningitis, thrombosis of the lateral sinus, facial paralysis, endocranial abscess, of acute general septicemia.

The *mucosus capsulatus* infection, while occurring in only a small percentage of cases, various writers estimating from 5 per cent. to 12 per cent., deserves special consideration, because of its insidious onset, the avoidance of much disturbance in the tympanum, its intense predilection for rapacious destruction of mastoid cells, its rapid bone destruction, and an apparent unconquerable desire to involve the endocranium. Even if thwarted in this attack by complete exenteration of the cells by early operation, its adamantine will to persist in its destructive role is evidenced by a period of latency, and the development of fatal meningitis or brain abscess, from a few weeks to a few months after an apparently successful operation.

Aid of X-Ray: A suppurative inflammation in the mastoid cells shows its presence roentgenographically in two ways: by pus and granulation tissue obstructing the permeability of the rays, and secondly by showing the destruction of the intercellular walls. Comparison of the two mastoids must be made, and the films must be as uniform as possible. Stereoscopic pictures are preferable, as these also give perspective. The internal auditory canal stands out as a black spot, more or less

oval in shape. If the exposure is properly made, the lines of the cartilages of the auricle serve as a landmark, and establish the relations of the various bony structures which can be defined. The mastoid cells will be seen above, behind and below the internal auditory canal, more or less obscured by pus, or fused together into a larger cavity, and dark in appearance from the ready penetration of the rays. The lateral sinus may be seen, and occasionally the ossicles can be distinguished. Care must be taken not to confuse a sclerotic or diploic mastoid with a mastoid full of pus. In the former, the white shadow is denser and smaller than in the latter. Also, a sclerotic mastoid is apt to be associated with one on the other side. The comparison being lost, X-Rays are of less value in bi-lateral mastoiditis. In some cases the sinus lies so far forward and close to the posterior wall that the first blow of the gouge, in lifting the cortex at the usual site, reveals the sinus lying in a dangerous location. A good X-Ray picture should reveal this condition, and warn the operator of the abnormal location. The use of the X-Rays should be encouraged, as it is only by broad experience that proficiency in diagnosis is increased.

Temperature, except in virulent cases, is never high, running from 98 to 103 F., average 102. A 4-hourly chart is valuable, as this shows the remissions, or the up and down pus curve at irregular intervals. To be of the greatest value, the patient should be in a hospital and no medicine administered for 24 hours. A sudden rise in temperature, followed by a chill, should make one suspicious of sinus involvement, and calls more urgently for the mastoid operation. In many cases the temperature is atypical and these so-called quiet cases are not most dangerous, as the patient may be walking about, or even attending to business, and it is hard to convince the patient or his friends of the seriousness of the changes taking place in the mastoid and apparent only to the otologist. Needless to say that this sort of case is particularly urgent, because of the danger of the onset of complications due to a period of procrastination, which, to an unskilled observer, seems to be absolutely justifiable. The X-Ray here serves in a great field of usefulness. In these cases, where a decision has to be made, not in the presence of a group of symptoms, but perhaps in

the presence of only one, the otologist should dismiss the negatives from his mind, and concentrate on the positive, even if only a lone symptom. Observation of doubtful cases often shows that the hearing is diminished out of all proportion to the apparent lesion, and this is of considerable diagnostic value. The more profound the deafness, the more urgent the operation. The power of observation achieved by an abundance of experience is of greatest value in weighing the particular evidence of the morbid process.

The leucocyte count as in all other infections not involving the blood stream is increased, and varies from 11,000 to 25,000 or more. The polymorphonuclears are increased from a normal of 72 per cent. to 85 or 90 per cent.

From the foregoing, the signs that have been enumerated make the indications for the mastoid operation comparatively clear, and, in summarizing, the operation is advised in the following:

1. Long standing cases of acute middle ear suppuration, that resist local, rational treatment; or when symptoms of pus retention and absorption intervene.
2. Cases of acute mastoiditis, characterized by pain on pressure over antrum, tip, or post-osseous wall; by fever which is persistent in children, after paracentesis; and by drooping of the post-sup. canal wall.
3. Cases of acute middle ear suppuration, with nausea, vomiting, dizziness or facial paralysis; or with symptoms of intracranial or labyrinthine involvement.
4. Cases of sub-periosteal abscess.

Whiting well says: "As a life saving measure, few surgical procedures equal and none surpass in efficiency the modern mastoid operation."

CASE No. 1.

TUBERCULOUS MASTOIDITIS HEALED BY USE OF ULTRA VIOLET RAY.

H. C. Age 1 year. Admitted to the R. I. Hospital November 6, 1923. Was a full term baby, normal delivery, bottle fed. No recent acute infections.

About two weeks ago developed fever, and cried as if in pain, putting hand to left ear. A local physician was called, and the ear drum was incised. No drainage followed, the pain continuing intermittently for one week, when another

physician was called. The ear began to discharge, and the patient was treated for several days. Four days later, redness and swelling made its appearance behind the ear, the baby acting as if in great pain. An otologist was called, who referred the patient to the Hospital.

Local examination showed redness, edema and a localized swelling about the size of a chestnut over the left mastoid process, the tip not being palpable. The external auditory canal was plugged with foul pus and epithelium. The drum was boggy, reddish in hue with a ragged central perforation containing pulsating pus.

Operation November 7:

Incision at the usual site opened into a subperiosteal abscess, which had dissected the periosteum from the bone. The cortex was roughened and necrotic. On removing the cortex, a large sequestrum lying loose in the cavity, and involving the posterior wall was found. All necrotic areas were curetted, and communication established with the middle ear. The sinus or dura were not exposed. The cavity drained with iodoform gauze, and the wound partially closed with skin clips. Culture showed *Staphylococcus aureus* and *Pneumococcus*.

The patient seemed to do very well, the wound granulating in fast, and on December 18, apparent healing had taken place. However, a few days later the wound showed marked inflammatory reaction, and a post auricular sinus began to discharge. No improvement taking place, a second operation was done, and another large sequestrum was removed. Four days later the glands of the neck began to enlarge, and the ear to discharge foul pus. A Von Pirquet gave a positive reaction. The child's condition became worse. She was very anemic, the glands in the neck continued to increase in size and a secondary infection of the scalp made its appearance in the form of a pustular eczema. The hair was matted down with dried purulent secretions, and in places was absent.

Not being able to secure any beneficial results with the course of treatment we were using, I decided to try Actino Therapy. The patient was discharged from the hospital and came to my office for irradiation.

The first treatment consisted of one minute irradiation from the water cooled quartz lamp,

using the compression lens in contact with the mastoid and also over the enlarged cervical glands. The scalp was covered with two minute exposures at a distance of one inch. Treatments were given at intervals of four or five days, increasing the time of exposure according to the reaction. Improvement began to be noticed from the first treatment. The mastoid sinus closed after discharging the malleus and incus. The glands in the neck gradually subsided, the eczema of the scalp disappeared, the hair began to grow, the child gained in weight rapidly, and today I think looks as well as any child of her age.

CASE No. 2.

ACUTE MASTOIDITIS, COMPLICATED WITH MENINGITIS. RECOVERY.

F. W., Age 9, had a discharging ear for three months. She suddenly became very ill, with severe pain in the ear and mastoid region, accompanied by fever, nausea and vomiting. A physician saw her and pronounced the case pneumonia. She continued to evince an aggravation of symptoms, crying and moaning as if in great pain, was delirious and apparently able to move about in bed only with the greatest difficulty. The parents became much alarmed, and sent for another physician, who made a diagnosis of mastoiditis, and sent the child to the hospital.

When first seen, she was lying quietly in bed with marked retraction of the head. The right pupil was larger than the left, and both reacted sluggishly to light and accommodation. There was no strabismus or nystagmus. The right exterior auditory canal was full of creamy pus, and when wiped out, a perforation of the tympanic membrane was seen in the ant. inf. quadrant. There was considerable edema and great tenderness over the mastoid process. The neck was held rigidly in extension and attempts to flex it were met by firm resistance, and caused intense pain. The K. J. were hyperactive and equal. Double Kernig present. Temp. 101. White count 16,000.

She was operated on at once. Incision revealed a subperiosteal abscess and a small perforation of the cortex, a probe passing easily deep into the mastoid. The mastoid cells were bathed in free pus. There was considerable necrosis in and about the antrum, and extending well into the mastoid tip. A complete exenteration was done, the wound

partially closed with skin clips and drained with iodoform gauze strips. Following the operation, a lumbar puncture was done, and 30 cc. of cloudy fluid under pressure was withdrawn. The cell count was 1,130, mostly polymorphonuclears. A smear showed organisms not definitely made out, but reported as suggestive of either the meningococcus or streptococcus viridans.

The day following operation dropped to normal, but shortly afterwards rose to 104.5, preceded by a distinct chill. Pulse 130. Retraction of the neck, and Kernigs still present. Lumbar puncture done, withdrawing 27 cc., followed by injection into the spinal canal of 20 cc. of Flexner's anti-meningococcic serum. For the next 7 days, her condition remained about the same, and each day a lumbar puncture was done, securing varying amounts of fluid from 6 to 20 cc., followed by the injection of like amount of serum. A cell count made each day showed a diminution in number, the count on the 7th day being 347. On the 8th day, as the lumbar puncture was being performed, she complained of terrific pain in the head, and screamed loudly. The flow of fluid was checked and allowed to run slowly. The pulse rose from 115 to 150. The pain subsided upon the introduction of serum into the canal. On the 9th day the temperature was 99.4. There was no pain on flexing the neck, and Kernigs sign had disappeared. An anaphylactic rash made its appearance well over the entire body.

On the 14th day, the temperature had been normal for 48 hours. The patient commenced to take an active interest in things about her, was eating and sleeping well, and the mastoid wound granulating in well rapidly.

On the 30th day after operation, the wound was completely healed, her general condition greatly improved, and she was discharged cured.
CASE No. 3.

G. C. was admitted to the hospital on January 23, 1925, complaining of a severe throat. The tonsils were red and swollen. No exudate present. Culture for K. L. negative. The pillars and palatal folds and uvula were markedly edematous, the uvula being so large as to interfere with respiration. Temperature 101, no chills or chilly sensations. Prostration great. Under treatment, the faucial condition gradually subsided. On the third day pain in left ear manifested itself, and on

examination the membrana tympani was found to be slightly reddened, but no evidence of fluid in the tympanum was present. The skin of the external auditory canal began to swell, and extended to the auricle and over the mastoid region, with superficial tenderness in the neck along the sternocleido-mastoid muscle. On the fifth day the membrana tympani took on a purplish hue and looked boggy and edematous. A myringotomy was done and a little bloody fluid exuded, but apparently not of a purulent nature. Drooping of the posterior superior canal wall could be observed on account of the general edema of the canal. Mastoid tenderness, if present, was masked by the superficial tenderness. A roentgenogram showed a mastoid involvement of wide dimensions. The White Count was 18,000. A blood culture was ordered and taken but unfortunately never reached the laboratory.

Diagnosis: Erysipelas and Mastoiditis.

Operation on the 8th day.

Incision was made through edematous, erysipelatous skin and subcutaneous tissues. The periosteum was firmly adherent to the bone. Upon lifting the cortex with a gouge man cells were uncovered bathed in free pus, and each cell containing a moulded globule of gelatinous pus. The mastoid cellular structure was of wide extent, reaching into the posterior zygomatic cells, superiorly and anteriorly, far posteriorly and well down into the tip, each being filled with pus. The antrum was uncovered and lightly curetted. There was no exposure of dura or sinus. The wound was partially closed with skin clips and drained with iodoform gauge strips. Culture of mastoid reported Streptococcus Hemolyticus.

The day following operation, the temperature rose to 105, accompanied by chills. The erysipelas now covered the left side of the face and gradually crossed over the bridge of the nose to the right side of the face and neck. Both eyes completely closed. The patient was desperately sick. Local treatment consisted of wet dressings of Mercurochrome. Being unable to obtain convalescent serum from a case of erysipelas, serum from a Scarlet Fever patient was secured at the City Hospital, and 50 cc. was given on two successive days.

The first day after operation, the temperature was 105; the second, 104; the third, 103; the fourth, 102.4; the fifth, 101.2; the seventh, 98, and then normal where it remained. The patient made a splendid recovery, the mastoid wound completely healing in six weeks, aided by irradiation with the Ultra Violet Ray.

INDUSTRIAL MEDICINE.

BY DR. JOHN F. KENNEY,

PAWTUCKET, R. I.

The industrial nurse today fills one of the most important positions in the field of public health nursing. Her position has become more and more essentially one of preventive medicine. I maintain that industrial medicine and industrial nursing have come to stay, but they are still in their infancy, at least in Rhode Island.

The majority of these medical departments in Rhode Island industrial concerns were started just previous to the war, when there was a great scarcity of help. Many of these departments were added with the idea of keeping at work men who had slight accidents, of such a nature that time would be lost, if visits had to be made to a hospital or to a physician's office. Now, however, regular medical work is being done also in these departments. Such medical work keeps the workers more fit physically and increases production in the work they are already doing as it allows them more hours for productive activity. All of this has been proved in records which show a marked falling off in "lost-time hours" of the worker.

As I have stated, a first-aid department is essential, first of all, to save time. Secondly, a patient will do much better under one man's care than he will if sent to an out patient department where he may be seen each day by different men who will prescribe different forms of treatment. When we get beyond this we open up a very large field and should proceed cautiously.

I think each plant should do a small amount of first-aid medical work, besides accident work, and

by that I mean the treatment of conditions which may arise during working hours. After that the patient may be referred to his family physician. If, upon investigation, circumstances seem to warrant, this medical work may be continued, so that the health of the patient may be safeguarded and that of his co-workers may be protected.

The proper work for an industrial plant to take up is preventive rather than curative medicine. A proper physical examination of the employees, not with a view to discharging any worker who may have a physical defect, but to place him properly so that he may not injure his health and may still do a day's work is what I mean by preventive medicine. The correction of conditions under which these people work is the first step. Proper ventilation, light, even temperature, etc., are the first considerations and most essential. Abolish the use of the common drinking glass which all workers use even when bubblers are placed at convenient places in the room. Inspect the restaurants connected with these establishments regularly and see that cleanliness is carried out. Examine the workers in the restaurant physically for tuberculosis, syphilis, and other such conditions, and also to discover typhoid carriers. Special attention to the milk supply is also very important.

Nearly all plants which have established a first-aid department have a physician in charge who is on call at all times to take care of accidents. In some states the plants furnish entire medical and surgical service free of charge and furnish eye and dental clinics too. But, before going too far into this work it should be well investigated.

The danger in all this work is that we destroy the ambition and initiative of the workers and become paternal. We all know that state medicine, health insurance, and all other forms of medical help which at present are flourishing in most European countries are bad. Furthermore, we know that the worker is getting the worst end of it. But why is this system a failure? The ambition of the average worker is to lay aside enough money so that in case of sickness he can give his family every care. It is his hope, too, that at a certain age he may retire or at least take things a little easier. But if we destroy that incentive on his part and

*Read before the Industrial Nurses Association of R. I., in Pawtucket, at the April meeting, 1925.

he has no reason for saving, we are doing that worker and the entire country a great harm.

The present compensation law allows a patient to select his own physician. Should he do so it is because of the confidence he has in that physician and this confidence between physician and patient should never be destroyed. Let us hope that this phase of the present compensation law will remain exactly as it is.

Many of the nurses have a wrong impression of their duties and occasionally occupy a position that should be filled by a physician only. To fill an industrial position a nurse has to be somewhat of a diplomat. She has to carry out the doctor's orders on the one hand, and be able to please the patient and also give satisfaction to her employer, on the other. She should always place herself in the position of nurse to patient and not try to assume the role of physician to patient. At all times she should be ready to co-operate with any outside physician who may have a plant case under his care and at no time criticise or condemn any opinion he might give. She must remember that she is not a physician, for it is reasonable to believe that she has not had the training to enable her to make a diagnosis. It is a common failing or trick as we might call it for a patient under the care of an outside physician to talk his case over with the nurse. Great care and tact must be used by the nurse at such times, so as not to destroy the confidence of the patient in his family physician.

If the nurse will make a regular inspection of departments and keep in touch with the heads of departments as to the help who are out sick, she may detect cases needing medical care. Particularly in contagious diseases she may thus be able to safeguard the help by taking proper measures to prevent a spread of diseases such as small-pox, scarlet fever, and notably impetigo. This will help to increase production, as well. For every worker who is out sick, another must take his place. Even if the substitute should be an experienced worker, it will take some time for him to become accustomed to the routine and bring one hundred per cent production.

Great care should be taken by the nurse not to undertake the treatment of any case. Workers will often present themselves with slight infection and will request the nurse to treat them. Beware of such cases! The nurse may appreciate the confidence that the patient has in her but she must think of the possible outcome. If this particular case goes bad, the patient with all the confidence will be the first to condemn the kind nurse and try to place all the blame on her. She is much safer if she does not attempt to treat any case but attends to her routine duties. Under no circumstances should a nurse dispense drugs except on an order from a physician.

I also wish to impress upon every industrial nurse the importance of properly kept records. At any time these records may be used for reference in some claim on an accident. What a relief it is to turn to a systematic file and find just what you need! These records, and particularly any records of medical cases should be guarded carefully. They should be regarded as the private property of the physician and the nurse and not open to any employer or department head to read at will. Any breach of confidence between nurse and patient or physician and patient will soon spread about the plant and do considerable harm to the medical department.

While a nurse is not considered a social worker, she can help considerably in the way of proper guidance of the recreation and rest of the workers. Lectures to small groups from time to time on matters of personal hygiene and general care are very helpful. If the worker is not properly taking care of himself outside of working hours, he cannot be expected to do a proper day's work and is many more times liable to accidents. A few suggestions from the nurse would be kindly taken and are very effective.

In conclusion I wish to repeat that to my mind the industrial nurse has one of the greatest fields in which to do good, because of her chance to come in contact with such a large number of people. If she takes her work seriously, she is that wonderful combination of good qualities which has been dignified by the name of "guide, philosopher, and friend."

THE RHODE ISLAND MEDICAL JOURNAL

Owned and Published by the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee

FREDERICK N. BROWN, M.D., *Editor*
309 Olney Street, Providence, R. I.

CREIGHTON W. SKELTON, M. D., *Business Manager*
184 Broad Street, Providence, R. I.

ASA S. BRIGGS, M. D.
ALEX M. BURGESS, M. D.
W. LOUIS CHAPMAN, M.D.
JOHN E. DONLEY, M. D.
ROLAND HAMMOND, M. D.
J. W. LEECH, M. D.
NORMAN M. MCLEOD, M. D.
ALBERT H. MILLER, M. D.
DENNETT L. RICHARDSON, M.D.
GUY W. WELLS, M. D.
C. S. WESTCOTT, M. D.

*Associate
Editors*

Committee on Publication

FREDERICK N. BROWN, M.D., *Chairman*
CREIGHTON W. SKELTON, M.D.
W. A. HILLARD, M.D.
HALSEY DE WOLF, M.D.
J. W. LEECH, M.D.

Advertising matter must be received by the 10th of the month preceding date of issue.

Advertising rates furnished upon application, to the business manager, CREIGHTON W. SKELTON, M. D., 184 Broad Street, Providence, R. I.

Reprints will be furnished at the following prices, providing a request for same is made at time proof is returned: 100, 4 pages without covers, \$6.00; each additional 100, \$1.00. 100, 8 pages, without covers, \$7.50; each additional 100, \$2.80; 100, with covers, \$12.00; each additional 100, \$4.80. 100, 16 pages, without covers, \$10.50; each additional 100, \$3.00; 100, with covers, \$16.00, each additional 100, \$5.50.

SUBSCRIPTION PRICE, \$2.00 PER ANNUM. SINGLE COPIES, 25 CENTS.

Entered at Providence, R. I. Post Office as Second-class Matter.

RHODE ISLAND MEDICAL SOCIETY

Meets the first Thursday in September, December, March and June

HALSEY DEWOLF	<i>President</i>	Providence
H. G. PARTRIDGE	<i>1st Vice-President</i>	Providence
NORMAN M. MACLEOD	<i>2nd " "</i>	Newport
JAMES W. LEECH	<i>Secretary</i>	Providence
J. E. MOWRY	<i>Treasurer</i>	Providence

DISTRICT SOCIETIES

KENT

Meets the second Thursday in each month

G. HOUSTON	<i>President</i>	Arctic
C. S. CHRISTIE	<i>Secretary</i>	Riverpoint

NEWPORT

Meets the third Thursday in each month

WILLIAM S. SHERMAN	<i>President</i>	Newport
ALEXANDER C. SANFORD	<i>Secretary</i>	Newport

Section on Medicine—4th Tuesday in each month, Dr. Charles A. McDonald, Chairman; Dr. C. W. Skelton, Secretary and Treasurer.

R. I. Ophthalmological and Otological Society—2d Thursday—October, December, February, April and Annual at call of *President* Dr. Jeffrey J. Walsh, President; Dr. Francis P. Sargent Secretary-Treasurer.

The R. I. Medico-Legal Society—Last Thursday—January, April, June and October. Frederick Rueckert, Esq., President; Dr. Jacob S. Kelley, Secretary-Treasurer.

PAWTUCKET

Meets the third Thursday in each month excepting July and August

H. A. MANCHESTER	<i>President</i>	Saylesville
ROBERT T. HENRY	<i>Secretary</i>	Pawtucket

PROVIDENCE

Meets the first Monday in each month excepting July, August and September

ALBERT H. MILLER	<i>President</i>	Providence
P. P. CHASE	<i>Secretary</i>	Providence

WASHINGTON

Meets the second Thursday in January, April, July and October

M. H. SCANLON, M. D.	<i>President</i>	Westerly
WM. A. HILLARD	<i>Secretary</i>	Westerly

WOONSOCKET

Meets the second Thursday in each month excepting July and August

J. V. O'CONNOR	<i>President</i>	Woonsocket
J. M. MCCARTHY	<i>Secretary</i>	Woonsocket

EDITORIALS

THE BREAKING STRAIN.

Recent medical literature has been replete with articles on the dangers of the worn out heart muscle of the middle aged. We have been on the watch for hypertension, damaged kidneys, and all the long train of conditions made familiar by frequent repetition. No less important is it to call attention to those cases of collapse frequently

found in somewhat younger people, and due usually to prolonged activity under high nervous tension.

The young high pressure business man, trying to out-distance all competitors; the over-conscientious school teacher who "carries" all her pupils twenty-four hours a day; or the over-worked rural nurse, with the sufferings and tragedies of the community on her heart, all furnish ready material for what is popularly called a nervous breakdown.

The treatment of these cases once developed, may properly be left to those especially trained in dealing with impaired nervous systems. This is a plea to the general practitioner for an earlier recognition of the impending disaster, and an authoritative insistence on the proper regime necessary to avoid the ultimate calamity. Truly, preventive medicine has here a golden opportunity. By the time the patient himself recognizes the dangers of his condition, and seeks the advice of a specialist, the damage has been done, either irrevocably or to such an extent that years are required to restore him to his proper place in life.

It is perhaps the younger men, fresh from the laboratories, who most often fail in early recognition of the danger signals. This is natural, for not often do these unfortunates show significant reactions to chemical or serologic tests. It is the art rather than the science of medicine that must be invoked, the wisdom of experience rather than the knowledge of books.

If to a sound scientific knowledge, the physician can add that insight into the human system, that almost unconscious reading of nature's subtle signs which distinguishes the man of keen observation and ripe experience, then, indeed, will he be able to avert the shipwreck of many lives.

THE VALUE OF THE CONFERENCES.

Since the idea of the clinical conferences, as sponsored by the State Medical Society, was first explained, considerable skepticism has been expressed by some of the members from time to time as to the value of them. Various reasons have been given for their doubt, chief of which seems to be that Rhode Island had no medical school and, therefore, not much knowledge could emanate from the conference. The first part of the premise is true, and to a certain extent may be favorable rather than detrimental to such a plan. It permits a freer discussion than is possible in the presence of medical students, before whom rather elementary and didactic lectures are necessary for teaching purposes. It is in this particular phase that the conferences as planned differ. The conductor of the conference presents his material, gathered in most instances from sources of hospi-

tals, which naturally offer a larger field than private practice, and invites discussion of the material he has presented. In most clinics in teaching centers, there is but little opportunity to ask a direct question concerning one's own problems or to hear questions and answers of several of the members. It would be an unusual doctor who could not gain something valuable from such a clinic. Already several clinics have been held, and these have worked out exactly as the originators of the scheme planned. Illustrative cases were presented, and discussion was in order at all times. That this was taken advantage of can best be judged by the number of questions asked and the interest shown. Comments made after the clinics must have been gratifying both to those who planned the conferences and to those in charge. The attendance has been large, and what is more encouraging still—the interest on the part of the members is a sufficient evidence of the definite value of the clinics to them.

THE TECHNIQUE OF LIVING.

In a book published recently, an English physician has attributed the great increase in neurotic individuals to a lack of technique of living. He shows that many people suffer greatly because the adjustments to our modern complex life take away a great deal of the surplus nervous energy. To them life is not one great adventure, but is simply "One damned thing after another."

The value of a technique is undoubted. Without aseptic technique, modern surgery would not be in its preeminent position. How we admire the technique of a master such as Tilden in tennis, or Jones and Ouimet in golf! What a pleasure to watch a football team functioning as a team, and not as an individual! If a technique can accomplish the desired results in games, it surely can be useful in the game of life.

To acquire a technique of living, it is necessary to have knowledge and practice. The knowledge of the inter-dependence of the different elements in our body—especially as to our feelings and emotions—is essential as a preliminary. When this knowledge has been gained, then practice is required to complete the accomplishment. Physi-

cians should be alive to the importance of the development of a proper technique, especially in families where there are growing children. Too many children have been punished because they imitated their parents, who did not have the divine gift of seeing themselves as others saw them.

A CORRECTION.

Under the caption of "Our Opportunity," there appeared in the November issue of the *Journal* an article that was intended as an editorial, written by our associate, Dr. A. M. Burgess. While the expressed sentiment was his (though shared by all), the voice was that of the RHODE ISLAND MEDICAL JOURNAL. Dr. Burgess' name in connection therewith was wholly an inadvertance on the part of the Editor, and should not have appeared.

SOCIETIES

PROVIDENCE MEDICAL ASSOCIATION.

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Albert H. Miller, Monday evening, October 5, 1925, at 8:48 o'clock.

The records of the last meeting were read and approved. A letter from Mrs. Amy E. Harris was read thanking the Association for its resolutions on the death of Dr. Harris.

The Standing Committee having approved their applications, the following were elected to membership: Mihran Missirlian, Earl J. Mathewson, Joseph P. Nourie, Samuel Morein.

Dr. Halsey DeWolf, President of the R. I. Medical Society, spoke on the clinics to be conducted by that society in the principal cities of the state this winter, and asked the members to spread the news.

Dr. Wilfred Pickles read a paper on Sacral Anesthesia. He described the anatomical basis for this branch of local anesthesia, outlined the technique of the caudal or epidural where the solution is put into the sacral canal, the presacral, where the anterior foramina are injected, and the transsacral, where the posterior foramina are injected and stated that most of the work on the external genitals and bladder could be done under combinations of these

methods. He reported briefly the results in his cases.

Dr. Gifford discussed the paper.

Dr. Elliot A. Shaw read a paper on "Some Problems Presented by Patients with Jaundice." He summarized as follows: The patient with obstructive jaundice presents an increased surgical risk. The common post operative complications are a lack of liver function, uremia and post operative hemorrhage. Pathologically these are based on a biliary toxemia, usually accompanied by infection resulting in a toxis hepatitis and nephritis and by a lack of available calcium. The surgical risk in these cases can be markedly reduced by proper post operative management.

The paper was further discussed by Drs. A. T. Jones and L. C. Kingman.

Dr. Francis B. Sargent read on acute sinusitis. He described the types and treatment and reported a large series of cases following several epidemics of acute upper respiratory tract infections with the results of a bacteriological study. Drs. Burgess, L. B. Porter, Ventrone and N. Darrell Harvey discussed the paper.

Dr. Skelton read an obituary on Dr. Gardner T. Swarts, and the secretary was instructed to spread this on the records, send a copy to the family and one to the R. I. Medical Journal for publication.

Dr. Skelton spoke on the circulation of the Medical Journal, and on his request the secretary was instructed to send him the names and addresses of all new members. Dr. White recited a poem. Meeting adjourned at 10:46 P. M. Attendance, 67. Collation was served.

Respectfully submitted

PETER PINEO CHASE, *Secretary*

A meeting of the Providence Medical Association was held on Monday, November 2, 1925, at 8:45 P. M. at the Rhode Island Medical Society Library, 106 Francis Street, with the following program: Case Report: Inversion of Uterus, Dr. I. H. Noyes; A Report on Fifty Cases of Pyelitis in Children, Dr. Robert M. Lord; The Use of Ultra-Violet Radiation in Pediatrics, Dr. A. R. Newsam; The X-Ray Treatment of Superficial Pyogenic Infections, Dr. I. Gerber. Collation followed.

DR. PETER PINEO CHASE, *Secretary*

RHODE ISLAND MEDICO-LEGAL SOCIETY.

The Regular Quarterly Meeting of the Society was held in the Medical Library, 106 Francis Street, Providence, on Thursday, October 29, 1925, at 5 P. M. Paper: "Are You Drunk or Intoxicated?" by Henry A. Jones, M.D., of Cranston, R. I. Following adjournment, a light supper was served.

JACOB S. KELLEY, M.D., *Secretary*

HOSPITALS

The following is a report of the October meeting of the Memorial Hospital Staff:

"Meeting called to order by President Wheaton at 9:10 P. M., October 1, 1925. Minutes of June meeting read and approved. Members present: Drs. Wheaton, Kenney, Lutz, Henry, Oulton, Jones, Shaw, Sweet, Kerney, Marshall, Berman, Siske, Towle, Holt, Gilroy, Kelley, Houston. Trustees present: Mr. Frederic W. Easton and Mr. William McGregor. An interesting paper was read by Dr. E. A. Shaw on "Acute Pancreatitis." Discussion by Dr. Jones. Meeting adjourned at 10:10 P. M."

JOHN F. KENNEY, M.D.

Secretary Memorial Hospital Staff

IN MEMORIAM

Dr. Gardner Taber Swarts, for twenty-three years secretary of the State Board of Health previous to his resignation in 1917, and one of the recognized authorities on dermatology in this section of the country, died of pneumonia at his home, 70 Waterman Street, May 12, 1925, after an illness of only five days. He was in his sixty-eighth year, and is survived by his wife, one son and a daughter.

He was born in this city, December 13, 1857, the son of Gardner T. and Harriet A. (Wood) Swarts, and graduated from the Harvard Medical School in 1879, since which time he had been engaged in practice here.

Though well to do, he did not give himself to a life of ease and pleasure. He worked hard in acquiring skill in the science and art of medicine, perfecting himself in bacteriology and dermatology. And in his office as Secretary of the State Board of Health, he devoted himself unremit-

tingly to the duties of the office—organizing the new department for service, and ever laboring to increase its efficiency, enlisting and stimulating the co-operation of the local health officers, and through his knowledge of dermatology, rendering invaluable service in the early diagnosis of smallpox, especially in the mild cases so apt to be overlooked. Then, too, he won the hearts of timid children whom he had to see in diagnosis of Scarletina, Diphtheria, etc., by his toy tokens that made him remembered and loved. He was interested also in the larger duties of the Public Health Service, and was honorably promoted to the Presidency of the American Public Health Association, to which he was elected on August 28, 1908, at Winnipeg, Manitoba, and whose meetings he always attended, even if held far away. Moreover, he was not without honor even in his own country, and in his own town, he filled different offices in the Providence Medical Association, including the Presidency in 1896-7, and President of the R. I. Medical Society in 1918-9.

In Epitome: Dr. Swarts gave his life for the health and happiness of the community.

(Signed)

C. H. LEONARD, M.D.

C. W. SKELTON, M.D.

D. L. RICHARDSON, M.D.

Report has been received of the death on May 12th, 1925, of Dr. Gardner T. Swarts, of Rhode Island, one of the most distinguished members of this Conference.

Dr. Swarts became eminent in Public Health work, because of his ability and untiring effort.

Early in the history of this organization, he was regarded an outstanding leader, and was honored by election to its Presidency.

Perhaps the work that gave to him more general recognition was his establishment of the first Public Health laboratory examinations in the United State, a service of unsurpassed importance to the medical profession. This was begun in connection with the Providence City Board of Health in 1888, and introduced as a regular service in the Rhode Island State Board of Health in 1894.

The Conference of State and Provincial Health Authorities of North America, in session at Montreal, June 5th, 1925, by vote express appreciation for the long service rendered by Dr. Swarts, and sorrow occasioned by his death.

Signed

B. U. RICHARDS

Secretary Rhode Island State Board of Health

INDEX

	PAGE
American Sanatorium Association, Eastern Section..	15
Anesthesia, Sacral. W. Pickles, M.D.....	193
Announcements	27, 49, 80, 102, 126, 167
Appendicitis, Acute, occurring in tubercular peritonitis. A. Corvese, M.D.....	125
Bladder, ureter and kidney, Diagnosis of the diseases of, with roentgenological case reports. V. J. Oddo, M.D.....	1
Book Reviews	17, 100
Cases, Reports of:	
R. W. Benton, M.D.....	98
R. C. Bates, M.D.....	138
Cataracts, The treatment of. J. L. Dowling, M.D....	179
Diphtheria immunization in Providence, a progress report. C. L. Scamman, M.D.....	146
Editorials,	
12, 28, 43, 66, 81, 93, 112, 127, 148, 168, 183,	205
Feeble minded, Problems met with at the school for.	
J. Ladd, M.D.....	79
Gastro-intestinal considerations. W. L. Chapman, M.D.	35
Gorgas Memorial, The.....	152
"Health audit"—Aid to longer life. C. H. Mayo, M.D., Rochester, Minn.....	147
Hospitals:	
Memorial	27, 86, 208
Providence City Hospital	42, 86, 139
Hyperthyroidism, The heart and its management in.	
C. C. Sturgis, M.D., Boston.....	141
Inflammatory conditions, X-rays in the treatment of.	
S. Albert, M.D.....	90
Insulin in diabetes, Problems and results in the use of. A. M. Burgess, M.D.	38
Inter-state Post Graduate Assembly of America. Program	155
Laboratory, The use of in the practice of medicine.	
H. E. Smiley, M.D.....	165
Letters to the editor.....	30, 151
Mastoiditis, Some remarks on. H. E. Blanchard, M.D.	197
Medical and psychiatric problems in Institutions.	
A. E. Martin, M.D.....	129
Medicine, Industrial. J. F. Kenney, M.D.....	203
Mental defectives and criminals, Eugenic sterilization of, Is the State of Rhode Island ready to have a law authorizing. H. A. Jones, M.D.....	75
Mental diseases, State Hospital for. A. H. Harrington, M.D.	45
Mental medicine, The general practitioner's relation to. A. H. Ruggles, M.D.....	22

	PAGE
Miscellaneous	102, 140
Moles, warts, and epitheliomata. R. Blosser, M.D..	71
Myxedema, Congenital. L. I. Kramer, M.D.....	87
Myxedema, The heart and its management in. H. A. Christian, M.D., Boston.....	109
Neurosurgery, Recent advances in, especially in the diagnosis and treatment of brain injuries. W. Sharpe, M.D., New York.....	51
News items.....	32, 102, 139
Obituary:	
Gonzalo Edward Buxton, M.D.....	83
Edward Mowry Harris, M.D.....	138
Harold Melnotte Howard, M.D.....	97
Gardner Taber Swarts, M.D.....	208
Obstetrics, Synergistic analgesia in. I. H. Noyes, M.D.	180
Providence Medical Association, President's Annual Address. G. W. VanBenschoten, M.D.....	19
Rhode Island Medical Society:	
Clinical Conference Committee.....	154, 169
Roster of Clinics.....	187
Rhode Island Medical Society, President's Annual Address. Halsey DeWolf, M.D.....	103
Society Reports:	
Rhode Island Medical Society.....	14, 68, 99, 136, 170
Council	14, 118
House of Delegates.....	14, 98, 120, 131
Secretary's Report.....	120
Treasurer's Budget.....	14
Treasurer's Report.....	118
Pawtucket Medical Association.....	34, 70
Providence Medical Association,	
15, 32, 48, 68, 85, 99, 136, 186, 207	
Washington County Medical Society.....	34, 86, 100
Rhode Island Medico-Legal Society, 70, 137, 176, 208	
Rhode Island Ophthalmological and Otological Society	34, 176
Spinal cord, The diagnosis of tumors of. C. A. McDonald, M.D.....	61
Thyroid, Aberrant, with report of two cases. F. E. McEvoy, M.D.....	123
Tonsil, lingual, Extensive septic process originating in. F. M. Adams, M.D.....	161
Ulcer, Peptic, Medical aspects of. G. S. Mathews, M.D.	7
Visual standards for motor vehicle operators. J. W. Leech, M.D.	177
Washington County Medical Society. The early days of. F. T. Rogers, M.D.....	191





Lilly's Scarlet Fever Antitoxin



The United States Public Health Service issued to Eli Lilly and Company the first license to manufacture Scarlet Fever Streptococcus Antitoxin.

Lilly's Antitoxin is made by the Dochez method, which makes it possible to obtain an antitoxin many times stronger than the official requirements. Its great potency permits a dose of very small volume.

Each lot of Lilly's Antitoxin is tested by a control lot which has been proved therapeutically.

Lilly's Antitoxin is offered only in the concentrated form: A-80, Prophylactic Package; A-82, Therapeutic Package. Write for further information.

Supplied Through the Drug Trade

ELI LILLY AND COMPANY

INDIANAPOLIS, U. S. A.



Mention our Journal—it identifies you.

GASTRON

An aqueous-acid-glycerin extract of the entire mucosa of the fresh stomach, including the pyloric, containing the peptic enzymes,—proteolytic and milk-curdling, the activated principles and naturally associated soluble organic and inorganic constituents.

GASTRON is a stable, potent fluid, free from alcohol and free from sugar, with an acidity approximately of 0.25% absolute hydrochloric acid, loosely bound to protein, and twenty-five per cent. pure glycerin.

GASTRON is put up in 6 oz. unlettered bottles, without literature

Fairchild Bros. & Foster
New York



The Superservice Hot Water Bottles

Are made from the finest
and purest selected rubber

Over capacity, unlosable stopper. Soft,
velvety, heavy rubber

Hold the heat longer and will
outwear all other water bottles

Davol Rubber Company
Providence, Rhode Island, U. S. A.

